

Recovery Plan Action Status

Plan Name: Boulder Darter

Plan Status: Final

Plan Date: 27-Jul-89

Lead Agency: USFWS

Lead Office: Tennessee Ecological Services Field Office

(981)

528-6481)

Species	Action Priority #	Action #	Action Description	Action Status	Est. Initiation Date	Est. Completion Date	Responsible Parties	Work Type	Labor Type	Action Comments
Boulder darter (Etheostoma wapiti)	1	1.1	Continue to utilize existing legislation and regulations to protect species and its habitat.	Ongoing Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Alabama Department of Conservation and Natural Resources, Alabama Natural Heritage Program , Tennessee Wildlife Resources Agency , Tennessee Department of COnservation	Other: Regulations	Internal Technical Assistance	
Boulder darter (Etheostoma wapiti)	2	1.2.1,1.2.2	Meet with local governmental officials and business interests and elicit their support for recovery.	Ongoing Not Current	Prior to FY 1995		U.S. Fish and Wildlife Service, Alabama Department of Conservation and Natural Resources, Alabama Natural Heritage Program , Tennessee Wildlife Resources Agency , Tennessee Department of COnservation	Other: Information and Education	Internal Technical Assistance	
Boulder darter (Etheostoma wapiti)	1	1.2.3	Develop information and education program and present.	Not Started			U.S. Fish and Wildlife Service, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority , Alabama Natural Heritage Program , Tennessee Wildlife Resources Agency , Tennessee Department of COnservation	Other: Information and Education	Internal Field Assistance	

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Boulder darter (<i>Etheostoma wapiti</i>)	1	1.3.1 - 1.3.3	Conduct research necessary for species management and recovery; i.e., habitat requirements, biology, and threat analysis.	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Alabama Department of Conservation and Natural Resources, Tennessee Valley Authority, Alabama Natural Heritage Program, Tennessee Wildlife Resources Agency, Tennessee Department of Conservation	Management: Habitat Maintenance and Manipulation, Management: Population Monitoring, Research: Ecosystem Studies, Research: Habitat Requirements, Research: Habitat Status, Research: Population Assessment, Research: Population Surveys	Graduate Student, Internal Administrative, Internal Technical Assistance	An adaptive management/structured decision making process has been underway since 2008 which is focusing on the Tennessee Valley Authority (TVA) modifying operations at Tims Ford Dam; the intent of these changes is to improve habitat and water quality conditions for two listed species, the boulder darter and cracking pearl mussel, downstream of the dam in 133 miles of the Elk River in TN and AL. Over \$250,000 in TVA funds was recently provided to USGS to hire a post-doctorate to develop and refine various models as part of the Tims Ford Dam adaptive management/structured decision making process; this effort will occur through 2011 - 2013. In conjunction with this effort, a graduate student is being provided by TN Tech. to study the boulder darter population in the Elk River drainage. Her study will involve: 1) describing the micro- and macrohabitat requirements of the boulder darter, and 2) assisting in determining the current distribution of boulder darters in the Elk River. Results will be

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										provided to TVA to guide them in modifying operations associated with hydropower generation at Tims Ford Dam with the goal of warming spring and summer tailwater temperatures and lessening water level fluctuations year-round, especially at times critical to successful reproduction of the boulder darter.
Boulder darter (Etheostoma wapiti)	3	1.3.4	Based on biological and threat analysis, investigate need for management and implement where needed.	Ongoing Current	FY 2008		U.S. Fish and Wildlife Service, Alabama Department of Conservation and Natural Resources, Alabama Natural Heritage Program , Tennessee Wildlife Resources Agency , Tennessee Department of Conservation	Management: Habitat Maintenance and Manipulation	Internal Technical Assistance	Priority 1, 2, or 3 (depending on result of 1.3.1, 1.3.2, and 1.3.3). TVA finalized EA on Tims Ford Dam operations for improved water quality, and since 2008 have been using an adaptive management process to warm the tailwater and reduce extreme fluctuations in flow.
Boulder darter (Etheostoma wapiti)	3	1.3.5	Determine number of individuals required to maintain viable population.	Not Started			U.S. Fish and Wildlife Service, Alabama Department of Conservation and Natural Resources, Alabama Natural Heritage Program , Tennessee Wildlife Resources Agency , Tennessee Department of Conservation	Work type not yet selected	Labor type not yet selected	

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Boulder darter (Etheostoma wapiti)	2	2	Search for additional populations and suitable habitat	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Alabama Department of Conservation and Natural Resources, Alabama Natural Heritage Program , Tennessee Wildlife Resources Agency , Tennessee Department of Conservation	Research: Population Surveys	Species Expert	
Boulder darter (Etheostoma wapiti)	1	3	Develop techniques, select sites, reintroduce the species back into historic habitat, and evaluate and protect any populations established	Ongoing Current	FY 2000 - FY 2004		U.S. Fish and Wildlife Service, Alabama Department of Conservation and Natural Resources, Alabama Natural Heritage Program , Tennessee Wildlife Resources Agency , Tennessee Department of Conservation	Research: Propagation	Species Expert	
Boulder darter (Etheostoma wapiti)	2	4	Develop and implement a monitoring program	Ongoing Current	FY 2008		U.S. Fish and Wildlife Service, Alabama Department of Conservation and Natural Resources, Alabama Natural Heritage Program , Tennessee Wildlife Resources Agency , Tennessee Department of Conservation	Research: Population Assessment	Contract, Species Expert	
Boulder darter (Etheostoma wapiti)	3	5	Annually assess recovery program and modify program and plan where required	Ongoing Current	FY 1995 - FY 1999		U.S. Fish and Wildlife Service, Alabama Department of Conservation and Natural Resources, Alabama Natural Heritage Program , Tennessee Wildlife Resources Agency , Tennessee Department of Conservation	Management: Planning	Internal Field Assistance	